

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
WO 2004/006176 A2

(51) International Patent Classification<sup>7</sup>: G06K 19/07, 7/00

(21) International Application Number:  
PCT/GB2003/002846

(22) International Filing Date: 2 July 2003 (02.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0215318.7 3 July 2002 (03.07.2002) GB

(71) Applicant (for all designated States except US): MARCONI UK INTELLECTUAL PROPERTY LTD [GB/GB]; New Century Park, PO Box 53, Coventry CV3 1HJ (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): FORSTER, Ian, James [GB/GB]; 31 Great Cob, Springfield, Chelmsford, Essex CM1 5LA (GB).

(74) Agent: WATERS, Jeffrey; Marconi Intellectual Property, Marrable House, The Vineyards, Great Baddow, Chelmsford, Essex CM2 7QS (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

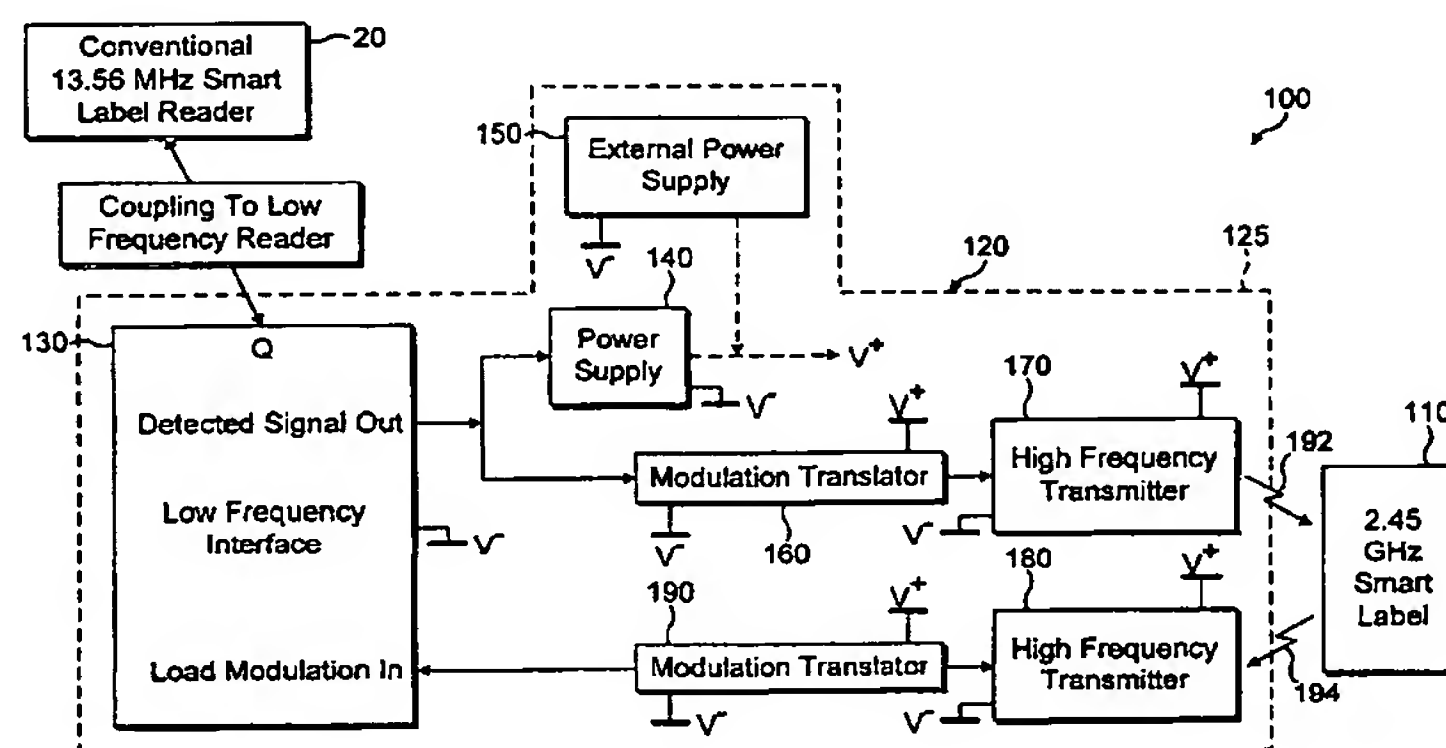
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: READER INTERFACING DEVICE



(57) Abstract: The invention provides a reader interfacing device (120) for providing a communication path between: (a) a tag or smart label reader (20) configured to emit and receive interrogating radiation suitable for interrogating tags or smart labels (40) at a first radiation frequency; and (b) a remote tag or smart label (110) configured to be interrogated using radiation of a second frequency, the first frequency (13.56 MHz) and the second frequency (2.45 GHz) being mutually different by at least an order of magnitude, and the reader (20) being operable to communicate through the device (120) to the remote tag or smart label (110). The device (120) includes a power supply (140) for converting interrogating radiation received at the device from the reader to generate power supply potentials for powering the device (120). Moreover, the device (120) is mutually magnetically coupled to the reader (20) for receiving the interrogating radiation therefrom and for providing a modulated load thereto for communicating back to the reader (20). In order to achieve such magnetic coupling, the device (120) includes a loop antenna (310) for magnetically coupling to a corresponding loop antenna (60) of the reader. The device (120) provides, for example, the advantage that the reader (20) can conform to a standard ISO 15693 and the device (120) enables remote tags and smart labels not conforming to the standard to communicate with the reader (20).